



Alumina-Rich Glasses

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Summary: A low-temperature method for making aluminum rich glasses that have high chemical durability and mechanical properties close that are to sapphire single crystals

Description: Thin glass panels have a variety of applications in consumer electronic devices, and as these technologies progress, there will be a need to create thinner glasses to reduce the device weight and thickness. For this to occur, the glass will need to be intrinsically strong, scratch resistant, and chemically stable, while also remaining low in cost. In this invention, a new families of glasses that have high levels of alumina in their structure (>50 mol%) are produced. The method to produce these glasses occurs at low-temperatures (<1700° C) and does not require a secondary strengthening process. The glass compositions have high chemical durability and mechanical properties that are close to sapphire single crystals.

Main Advantages of this Invention

- No post strengthening necessary
- Thinness is maintained with high strength
- No increase in manufacturing costs and no need to retrofit

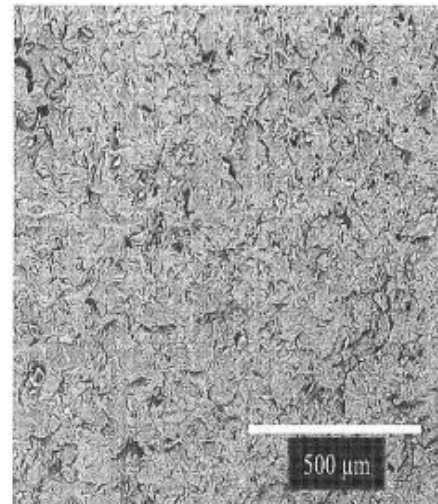
Potential Areas of Application

- Displays (TVs, tablets, computers, cell phones)
- Packaging
- Safety glass

Intellectual Property Status: US utility patent pending (application #14/283,510)

ID number: 13027

Opportunity: We are seeking an exclusive or non-exclusive licensee for marketing, manufacturing, and sale of this technology.



SEM micrograph of the fracture surface for NAB006

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